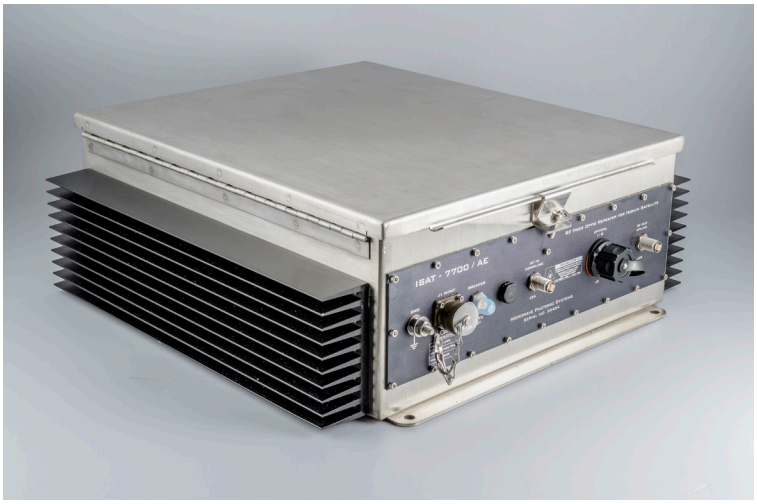
ISAT-7700

ISAT-7700/RSD: Satellite Telephone Fiber Optic In-Building Transmission System



Enables Satellite Telephone Augmentation to Achieve Expanded Continuity of Communications Connectivity

The ISAT-7700/RSD, Satellite Telephone Fiber Optic "In-Building" Transmission System, provides a novel TDD / FDD RF design approach to achieve the operational requirement of providing expanded continuity of communications network connectivity using satellite telephones.

The ISAT-7700/RSD utilizes proprietary and field proven MPS RF Photonic technology to transmit and receive the full spectrum of satellite telephone uplink and downlink traffic over single mode fiber optic cable. The use of single mode fiber optic cable provides the ability to securely route and distribute satellite traffic from an outdoor mounted antenna to locations throughout the communications network infrastructure.

The ISAT-7700/RSD can be integrated into architectures requiring Point-To-Point or Point-To-Multi-Point topologies supporting both single and multiple user augmentations found within structures, maritime vessels and tunnel complexes. The ISAT-7700 is operationally compatible with both Classified and Unclassified software enabled satellite telephones.

The ISAT-7700/RSD can be packaged to support a wide range of market segments to include: MIL Shipboard, Outdoor Harsh Environment, Airborne, Underground (explosion proof), and Commercial Telecom grade. A deployable fly away version is available which is packaged in transit cases.

Market Applications

- Network Operation Centers
- Emergency Response Centers
- Secure Facilities - TEMPEST
- C4ISR Command Posts
- Naval Shipboard & Maritime Vessels
- Oil, Gas & Mining Operations
- Offshore Drilling Platforms
- Rail & Tunnel Complexes

Features & Options

- Advanced RF Front-End Duplexing
- TDMA / FDMA Protocol Transparent
- Supports All Satellite Phone Providers
- GPS L1 & L2 Auxiliary Capability
- Fiber Optic Cable Ranges >10 km
- Front Panel Display of System Status
- Remote Status Monitor and Control
- 3 Year Limited Warranty

Deployment Schemes

- Point to Point : Single or Multi-User
- Point to Multi-Point: Single or Multi-User

Packaging Options

- Industrial & Harsh Environment (NEMA)
- MIL SPEC Ship / Airborne
- Indoor Rack or Wall Mount
- Fly Away Transit Case

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Microwave Photonic Systems, Inc.
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Satellite Telephone Fiber Optic In-Building Transmission System

Specifications

Optical Parameters:

Optical Wavelength	1310 nm , 1550 nm or CWDM available
Optical Output Power	4 mW (typical)
Optical Connector	FC/APC , SC/APC, or E2000 APC
Max Optical Reflections	< - 55 dBm
Fiber Optic Cable Type	Single Mode, 9/125 um
Optical Link Budget	up to 10 dBo

RF Parameters:

Peak Transmit Power	7 W (max)
Average Power	0.6 W per frame (typical)
Receiver Sensitivity	-118.5 dBm (typical)
Receiver Spurious Rejection	60 dB at 1MHz offsets (typical)
Impedance (Input / Output)	50 Ohm
VSWR (Input / Output)	2.0:1
Frequency Range (-001 Option)	1616 MHz to 1625.5 MHz
Duplexing Method	Time Domain Duplex (TDD)
Frequency Range (-002 Option)	2484.39 MHz to 2499.15 MHz 1610.73 MHz to 1620.57 MHz
Duplexing Method	Frequency Domain Duplex (FDD)
Multiplexing Method	TDMA / FDMA
Oscillator Stability	+/- 1.5 ppm
GPS Frequency Range (-003 Option)	L1: 1575.42 MHz, Time Reference Receivers
GPS Frequency Range (-004 Option)	L1 & L2: 1227.6 MHz, Precision Navigation

Additional Specifications:

Power Supply	Auto Ranging, 120 VAC, 60 Hz, Single Phase
Power Consumption	< 50 W
AC Receptacle	IEC 320
Storage Temperature	-20°C to +80°C
Operating Temperature	-10°C to +50°C (Note 1)
Status & Control	RS-232, RS-485 or Ethernet Options
Dimensions & Weight: Rack Mount	1RU x 19" x 14" & 12 lbs (US) (Note 2)
Dimensions & Weight: Wall Mount	14" x 18" x 6" & 25 lbs (US) (Note 2)

1RU x 19" Rack Mount

Outdoor Harsh Environment

Indoor Wall Mount

Note (1): Contact MPS for MIL and Industrial Harsh Environment Performance Ratings
Note (2): Contact MPS for MIL and Industrial Harsh Environment Packaging Options

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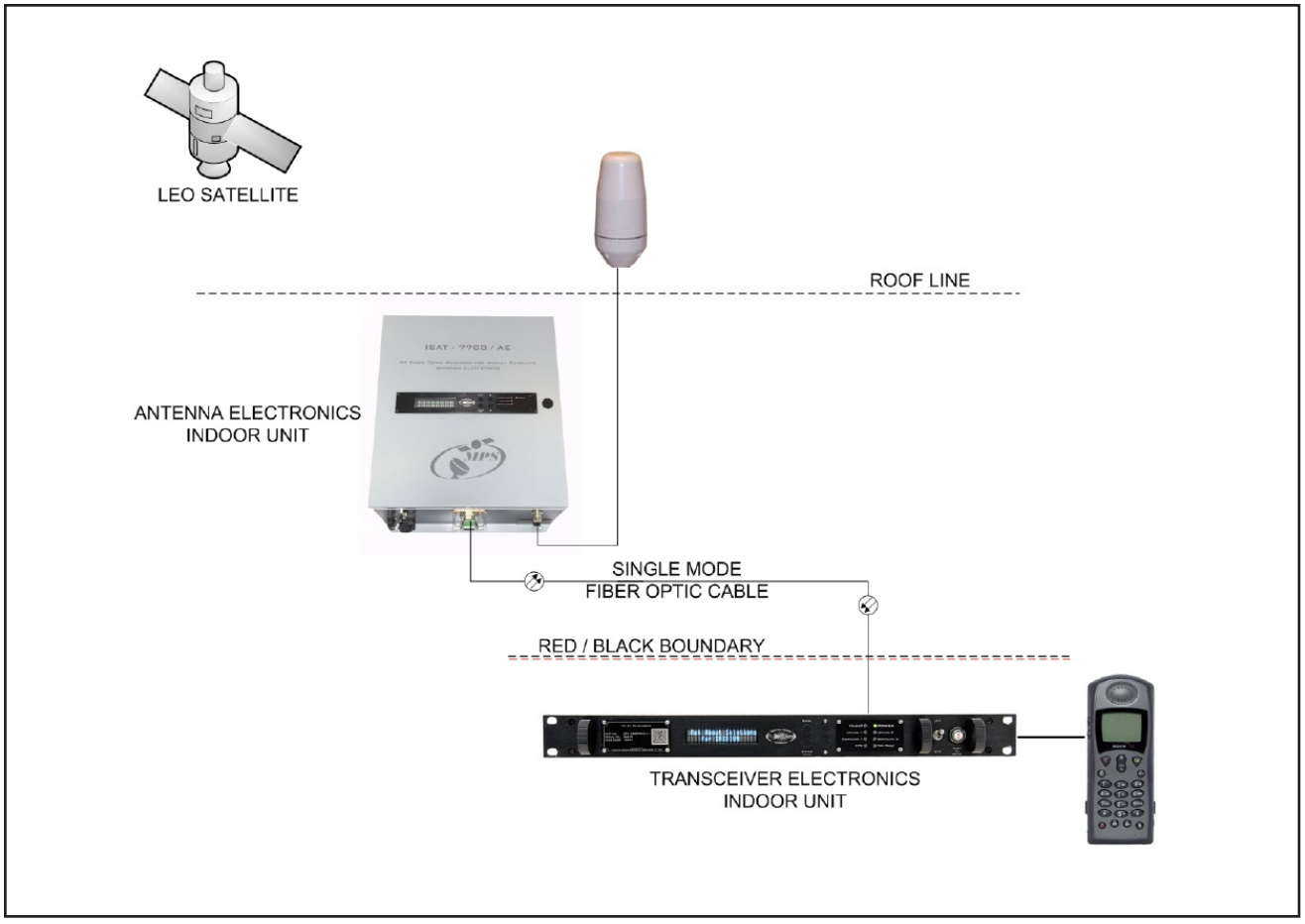
Functional Block Diagram:
Basic In-Building Point-To-Point Architecure



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